



Measure Information

This document contains the information submitted by measure developers/stewards, but is organized according to NQF's measure evaluation criteria and process. The item numbers refer to those in the submission form but may be in a slightly different order here. In general, the item numbers also reference the related criteria (e.g., item 1b.1 relates to subcriterion 1b).

Brief Measure Information

NQF #: 0454

Corresponding Measures:

De.2. Measure Title: Perioperative Temperature Management

Co.1.1. Measure Steward: American Society of Anesthesiologists (ASA)

De.3. Brief Description of Measure: Percentage of patients, regardless of age, who undergo surgical or therapeutic procedures under general or neuraxial anesthesia of 60 minutes duration or longer for whom at least one body temperature greater than or equal to 35.5 degrees Celsius (or 95.9 degrees Fahrenheit) was recorded within the 30 minutes immediately before or the 15 minutes immediately after anesthesia end time

1b.1. Developer Rationale: A drop in core temperature during surgery, known as perioperative hypothermia, can result in numerous adverse effects, which can include adverse myocardial outcomes, subcutaneous vasoconstriction, increased incidence of surgical site infection, and impaired healing of wounds. The desired outcome, reduction in adverse surgical effects due to perioperative hypothermia, is affected by maintenance of normothermia during surgery.

S.4. Numerator Statement: Patients for whom at least one body temperature greater than or equal to 35.5 degrees Celsius (or 95.9 degrees Fahrenheit) was recorded within the 30 minutes immediately before or the 15 minutes immediately after anesthesia end time

S.7. Denominator Statement: All patients, regardless of age, who undergo surgical or therapeutic procedures under general or neuraxial anesthesia of 60 minutes duration or longer

S.10. Denominator Exclusions: Denominator Exceptions: Documentation of one of the following medical reason(s) for not achieving at least one body temperature greater than or equal to 35.5 degrees Centigrade or 95.9 degrees Fahrenheit within the 30 minutes immediately before or the 15 minutes immediately after anesthesia end time

- Emergency cases
- Intentional hypothermia

Denominator Exclusions: Patients undergoing:

Cardiopulmonary bypass: 00561, 00562, 00563, 00566, 00567, 00580

Regional nerve block: 01958, 01960, 01967, 01991, 01992

Monitored anesthesia care: any CPT code with -QS modifier

De.1. Measure Type: Process

S.23. Data Source: Claims, Electronic Health Records, Other, Paper Medical Records, Registry Data

S.26. Level of Analysis: Clinician : Group/Practice, Clinician : Individual, Facility

IF Endorsement Maintenance – Original Endorsement Date: Jul 31, 2008 **Most Recent Endorsement Date:** Jul 31, 2008

IF this measure is included in a composite, NQF Composite#/title:

IF this measure is paired/grouped, NQF#/title:

De.4. IF PAIRED/GROUPED, what is the reason this measure must be reported with other measures to appropriately interpret results? The measure is not paired or grouped with other measures.

1. Evidence, Performance Gap, Priority – Importance to Measure and Report

Extent to which the specific measure focus is evidence-based, important to making significant gains in healthcare quality, and improving health outcomes for a specific high-priority (high-impact) aspect of healthcare where there is variation in or overall less-than-optimal performance. **Measures must be judged to meet all subcriteria to pass this criterion and be evaluated against the remaining criteria.**

1a. Evidence to Support the Measure Focus – See attached Evidence Submission Form

[FINAL_NQF_MeasSubm_Evidence_0454.docx](#)

1b. Performance Gap

Demonstration of quality problems and opportunity for improvement, i.e., data demonstrating:

- considerable variation, or overall less-than-optimal performance, in the quality of care across providers; and/or
- disparities in care across population groups.

1b.1. Briefly explain the rationale for this measure (e.g., the benefits or improvements in quality envisioned by use of this measure)

A drop in core temperature during surgery, known as perioperative hypothermia, can result in numerous adverse effects, which can include adverse myocardial outcomes, subcutaneous vasoconstriction, increased incidence of surgical site infection, and impaired healing of wounds. The desired outcome, reduction in adverse surgical effects due to perioperative hypothermia, is affected by maintenance of normothermia during surgery.

1b.2. Provide performance scores on the measure as specified (current and over time) at the specified level of analysis. (This is required for endorsement maintenance. Include mean, std dev, min, max, interquartile range, scores by decile. Describe the data source including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included). This information also will be used to address the subcriterion on improvement (4b.1) under Usability and Use.

A number of tables have been included in the Measure Testing form as an attachment to this application. The tables show reporting and performance on postoperative normothermia captured in the National Anesthesia Clinical Outcomes Registry (NACOR); the number of these patients with Medicare as their primary insurance; the number reporting compliance with this measure; the number with a documented reason for exception; and the number with no documentation of exception.

NACOR has captured information on more than 4,000,000 patients eligible for this measure from 2010-2013. The number of procedures is consistent across all 4 years (adjusting for growth in NACOR participation). This suggests that the overall number of eligible cases is not changing substantially. The proportion of patients insured by Medicare does not show a change across years.

Patient demographics are included in the tables displayed in response to question 1.6 in the Measure Testing form. We show the numbers and percent of cases in which measure compliance is reported. The measure is more likely to be reported in Medicare patients than in the population at large, by about 2:1. This may reflect the financial incentives of the PQRS program.

Larger hospitals are more likely to have invested in the information technology which facilitates documentation and reporting of this measure. This suggests a gap in performance for which continued reporting of this measure could be a useful metric of closure.

The middling percentage of cases in which measure performance is reported reflects several factors. The most significant is likely the technical capacity to transmit this data to NACOR, which is not uniform across participating practices. The 5% Medicare data set shows a reporting rate of greater than 50% for anesthesia providers, in contrast to about 30% for NACOR as a whole. The difference is accounted for by practices which report their performance to CMS but do not or cannot share it with NACOR. This structural gap will close rapidly in the future as interoperability of EHR and quality capture systems improves. Of note, for those cases in which performance is reported, the rate of success or documented exceptions vs. undocumented failures is similar at about 96%. Please see the validity testing section of the Measure Testing form for data analysis and comparison.

Most noteworthy in both data sets is the observation that less than 50% of anesthesia providers are reporting this measure to NACOR, and only about 50% to CMS. This may represent a failure of clinical compliance, a failure of documentation, a failure of collection, or a failure of data transmission. While anesthesiology in general has one of the higher participation rates in PQRS there is still a substantial gap to be addressed. This argues for continued use of a measure such as this one, with a strong evidence base in support, good face validity and minimal economic burden.

1b.3. If no or limited performance data on the measure as specified is reported in 1b2, then provide a summary of data from the literature that indicates opportunity for improvement or overall less than optimal performance on the specific focus of measurement.

The source of the data presented in 1b.2 and 1b.4 is the National Anesthesia Clinical Outcomes Registry (NACOR), maintained by the Anesthesia Quality Institute. NACOR is a voluntary registry open to all anesthesia departments in the United States. The 20,000+ providers who reported on PACU normothermia from 2010-2013 represent approximately 25% of the national work force. Data in NACOR are collected by automated reports from local digital systems, including billing software, quality capture systems and anesthesia information management systems (AIMS; a component of the facility electronic healthcare record). The entire NACOR database includes more than 14,000,000 cases collected over the past 4 years. The AQI maintains NACOR for the primary purpose of local quality improvement; the 300 participating practices have continual online access to their own data, to summary and trending reports, and to national and peer group benchmarks. Data are presented at the practice, facility and individual provider level.

NACOR is certified by CMS to report PQRS measures for anesthesiologists, including this one. However most anesthesiologists who report this measure do so on a 'claims made' basis through their billing software. In some practices this information is copied to NACOR as well, but in other practices it is not part of the NACOR submission.

Further information on NACOR is available on the AQI website at www.aqihq.org. References for a more complete understanding of NACOR include:

Dutton RP, Dukatz A. Quality improvement using automated data sources: the anesthesia quality institute. *Anesthesiol Clin*. 2011 29(3):439-54.

Grissom TE, DuKatz A, Kordylewski H, Dutton RP. Bring out your data: The evolution of the National Anesthesia Clinical Outcomes Registry. *International Journal of Computational Models and Algorithms in Medicine*, 2011; 2: 51-69.

1b.4. Provide disparities data from the measure as specified (current and over time) by population group, e.g., by race/ethnicity, gender, age, insurance status, socioeconomic status, and/or disability. (This is required for endorsement maintenance. Describe the data source including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities include.) This information also will be used to address the subcriterion on improvement (4b.1) under Usability and Use.

The table displayed as a response to question 1.6 in the Measure Testing form shows information on compliance with this measure collected in the past 4 years in the National Anesthesia Clinical Outcomes Registry (NACOR), broken down by the average income of the zip code area in which the patient lives.

Attention should be focused on column representing the number of cases meeting all measure criteria, which shows no bias in this data based on the socioeconomic status of the patient. This suggests that in NACOR participants at least there is no shortage of the equipment needed to maintain patient normothermia.

The tables displayed as a response to question 1.6 in the Measure Testing form also show there is no evident bias in performance based on the age, gender or ASA physical status of the patient. There is increased reporting of the measure overall in patients with Medicare listed as their primary insurance.

1b.5. If no or limited data on disparities from the measure as specified is reported in 1b4, then provide a summary of data from the literature that addresses disparities in care on the specific focus of measurement. Include citations.

See 1b.3 above. NACOR collects data on all aspects of anesthesia practice, including numerous patient characteristics. While patient race is not usually requested or reported, the zip code of every patient is collected. These data can be used to estimate the socioeconomic status of large populations by comparison with the mean household income for that zip code, as reported by the US census.

1c. High Priority (previously referred to as High Impact)

The measure addresses:

- a specific national health goal/priority identified by DHHS or the National Priorities Partnership convened by NQF; OR
- a demonstrated high-priority (high-impact) aspect of healthcare (e.g., affects large numbers of patients and/or has a substantial impact for a smaller population; leading cause of morbidity/mortality; high resource use (current and/or

future); severity of illness; and severity of patient/societal consequences of poor quality).

1c.1. Demonstrated high priority aspect of healthcare

Frequently performed procedure, High resource use, Patient/societal consequences of poor quality

1c.2. If Other:

1c.3. Provide epidemiologic or resource use data that demonstrates the measure addresses a high priority aspect of healthcare.

List citations in 1c.4.

In 2010, an estimated 16 million operative procedures were performed in acute care hospitals in the United States(1). Due to the extremely high frequency of these procedures, this measure is important to overall patient safety in the United States.

The patient consequences of perioperative hypothermia have been well-documented. Odds of in-hospital mortality have been found to increase three-fold(2), with complications including adverse myocardial events³, increased blood loss(4-5) and surgical site infection(6-7) significantly more likely to occur in patients that experience perioperative hypothermia. Along with these complications comes added cost.

Perioperative hypothermia has been found to increase the time between surgical dressing and tracheal extubation(8), increase the duration of postanesthetic recovery(9-10) and increase the length of hospital stay for post-surgery patients(3,6). The increased blood loss caused by perioperative hypothermia results in more frequent blood transfusion, with the average patient requiring an additional 500-700ml of blood (4,11). It is estimated that even mild hypothermia can result in cumulative adverse outcomes adding between \$2,500 and \$7,000 (1999 U.S. dollars) per surgical patient(12).

1c.4. Citations for data demonstrating high priority provided in 1a.3

1. Centers for Disease Control and Prevention. Data from the National Hospital Discharge Survey. 2010. Accessed from http://www.cdc.gov/nchs/data/nhds/4procedures/2010pro_numberpercentage.pdf on 10 March, 2014.
2. Hannan EL, Samadashvili Z, Wechsler A, Jordan D, Lahey SJ, Culliford AT, Gold JP, Higgins RSD, Smith CR: The relationship between perioperative temperature and adverse outcomes after off-pump coronary artery bypass graft surgery. J Thoracic Cardio Surg 2010; 139(6):1568-75.e1
3. Frank SM, Fleisher LA, Breslow MJ, Higgins MS, Olson KF, Kelly S, Beattie C: Perioperative maintenance of normothermia reduces the incidence of morbid cardiac events. A randomized clinical trial. JAMA 1997; 277(14):1127-34
4. Schmied H, Kurz A, Sessler DI, Kozek S, Reiter A: Mild hypothermia increases blood loss and transfusion requirements during total hip arthroplasty. Lancet 1996; 347(8997):289-92
5. Rajagopalan S, Mascha E, Na J: The effects of mild perioperative hypothermia on blood loss and transfusion requirement. Anesthesiology 2008; 118:71-7
6. Kurz A, Sessler DI, Lenhardt RA: Study of wound infections and temperature group: Perioperative normothermia to reduce the incidence of surgical-wound infection and shorten hospitalization. NEJM 1996; 334: 1209-15
7. Flores-Maldonado A, Medina-Escobedo CE, Rios-Rodriguez HMG, Fernandez-Dominguez R: Mild perioperative hypothermia and the risk of wound infection. Arch Med Res 2001; 32(3):227-31
8. Fleisher LA, Metzger SE, Lam J, Harris A: Perioperative cost-finding analysis of the routine use of intraoperative forced-air warming during general anesthesia. Anesthesiology 1998; 88(5):1357-64
9. Lenhardt R, Marker E, Goll V, Tschernich H, Kurz A, Sessler DI, Narzt E, Lackner F: Mild intraoperative hypothermia prolongs postanesthetic recovery. Anesthesiology 1997; 87(6):1318-23
10. Casati A, Fanelli G, Ricci A, Musto P, Cedrati V, Altimari G, Baroncini S, Pattono R, Montanini S, Torri G: Shortening the discharging time after total hip replacement under combined spinal/epidural anesthesia by actively warming the patient during surgery. Minerva Anesthesiol 1999; 65(7-8):507-14

11. Hofer CK, Worn M, Tavakoli R, Sander L, Maloigne M, Klaghofer R, Zollinger A: Influence of body core temperature on blood loss and transfusion requirements during off-pump coronary artery bypass grafting: a comparison of 3 warming systems. J Thorac Cardiovasc Surg 2005; 129(4):838-43

12. Mahoney CB, Odom J: Maintaining intraoperative normothermia: a meta-analysis of outcomes with costs. AANA J 1999; 67(2):155-63

1c.5. If a PRO-PM (e.g. HRQoL/functional status, symptom/burden, experience with care, health-related behaviors), provide evidence that the target population values the measured PRO and finds it meaningful. (Describe how and from whom their input was obtained.)

The measure is not a patient reported outcome measure.

2. Reliability and Validity—Scientific Acceptability of Measure Properties

Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented. **Measures must be judged to meet the subcriteria for both reliability and validity to pass this criterion and be evaluated against the remaining criteria.**

2a.1. Specifications The measure is well defined and precisely specified so it can be implemented consistently within and across organizations and allows for comparability. eMeasures should be specified in the Health Quality Measures Format (HQMF) and the Quality Data Model (QDM).

De.5. Subject/Topic Area (check all the areas that apply):

Cardiovascular : Coronary Artery Disease, Cardiovascular : Coronary Artery Disease (AMI), Infectious Diseases (ID), Surgery, Surgery : General Surgery, Surgery : Perioperative and Anesthesia

De.6. Non-Condition Specific (check all the areas that apply):

Safety, Safety : Complications, Safety : Healthcare Associated Infections

S.1. Measure-specific Web Page (Provide a URL link to a web page specific for this measure that contains current detailed specifications including code lists, risk model details, and supplemental materials. Do not enter a URL linking to a home page or to general information.)

A measure-specific web page is not applicable to this measure.

S.2a. If this is an eMeasure, HQMF specifications must be attached. Attach the zipped output from the eMeasure authoring tool (MAT) - if the MAT was not used, contact staff. (Use the specification fields in this online form for the plain-language description of the specifications)

This is not an eMeasure Attachment:

S.2b. Data Dictionary, Code Table, or Value Sets (and risk model codes and coefficients when applicable) must be attached. (Excel or csv file in the suggested format preferred - if not, contact staff)

No data dictionary Attachment:

S.3. For endorsement maintenance, please briefly describe any changes to the measure specifications since last endorsement date and explain the reasons.

The following changes were made to the measure application:

Application Number: De.2.Measure Title

Previous Language: Anesthesiology and Critical Care: Perioperative Temperature Management

New Language: Perioperative Temperature Management

Reason: The measure title was updated to reflect the work of the AMA-PCPI Anesthesiology and Critical Care workgroup's deliberations.

Application Number: De.3. Brief description of measure

Previous Language: Percentage of patients, regardless of age, undergoing surgical or therapeutic procedures under general or

neuraxial anesthesia of 60 minutes duration or longer for whom either active warming was used intraoperatively for the purpose of maintaining normothermia, OR at least one body temperature equal to or greater than 36 degrees Centigrade (or 96.8 degrees Fahrenheit) was recorded within the 30 minutes immediately before or the 30 minutes immediately after anesthesia end time
New Language: Percentage of patients, regardless of age, who undergo surgical or therapeutic procedures under general or neuraxial anesthesia of 60 minutes duration or longer for whom at least one body temperature greater than or equal to 35.5 degrees Celsius (or 95.9 degrees Fahrenheit) was recorded within the 30 minutes immediately before or the 15 minutes immediately after anesthesia end time

Reason: The measure description was updated to reflect the work of the AMA-PCPI Anesthesiology and Critical Care workgroup's deliberations.

Application Number: S.4. Numerator Statement

Previous Language: Patients for whom either:

- active warming was used intraoperatively for the purpose of maintaining normothermia, OR
- at least one body temperature equal to or greater than 36 degrees Centigrade (or 96.8 degrees Fahrenheit) was recorded within the 30 minutes immediately before or the 30 minutes immediately after anesthesia end time

Numerator definition:

For purposes of this measure, "active warming" is limited to the following modalities only: forced-air warming, warm water garments

New Language: Patients for whom at least one body temperature greater than or equal to 35.5 degrees Celsius (or 95.9 degrees Fahrenheit) was recorded within the 30 minutes immediately before or the 15 minutes immediately after anesthesia end time

Reason: The numerator statement was updated to reflect the work of the AMA-PCPI Anesthesiology and Critical Care workgroup's deliberations.

Application Number: S.6. Numerator Details

Previous Language: Report the following CPT Category II code:

4250F – Active warming used intraoperatively for the purpose of maintaining normothermia, OR at least one body temperature equal to or greater than 36 degrees Centigrade (or 96.8 degrees Fahrenheit) recorded within the 30 minutes immediately before or the 30 minutes immediately after anesthesia end time

New Language: Report the following CPT Category II code:

Numerator Instructions: The anesthesia time used for this measure should be the time recorded in the anesthesia record.

NUMERATOR NOTE: If monitored anesthesia care (MAC) or peripheral nerve block (PNB) without the use of general anesthesia during an applicable procedure (regardless of duration of procedure), report 4559F-1P.

Definition:

Numerator Quality-Data Coding Options for Reporting Satisfactorily:

At Least One Body Temperature Equal to or Greater than 35.5 Degrees Centigrade Recorded Within Designated Timeframe (Two CPT II codes [4559F & 4255F] are required on the claim form to submit this numerator option)

CPT II 4559F: At least 1 body temperature measurement equal to or greater than 35.5 degrees Celsius (or 95.9 degrees Fahrenheit) recorded within the 30 minutes immediately before or the 15 minutes immediately after anesthesia end time.

AND

CPT II 4255F: Duration of general or neuraxial anesthesia 60 minutes or longer, as documented in the anesthesia record
OR

At Least One Body Temperature Equal to or Greater than 35.5 Degrees Centigrade Not Achieved Within Designated Timeframe for one of the following Medical Reasons:

(Two CPT II codes [4559F-1P & 4255F] are required on the claim form to submit this numerator option)

Append a modifier (1P) to CPT Category II code 4559F to report one of the following documented circumstances that appropriately exclude patients from the denominator.

4559F with 1P: Intentional hypothermia OR emergency cases OR peripheral nerve block without general anesthesia OR monitored anesthesia care

AND

CPT II 4255F: Duration of general or neuraxial anesthesia 60 minutes or longer, as documented in the anesthesia record
OR

If patient does not meet denominator inclusion because anesthesia time as indicated on the anesthesia record is less than 60 minutes duration

(One CPT II code [4256F] is required on the claim form to submit this numerator option)

CPT II 4256F: Duration of general or neuraxial anesthesia less than 60 minutes, as documented in the anesthesia record
OR

At Least One Body Temperature Equal to or Greater than 35.5 Degrees Centigrade Not Achieved Within Designated Timeframe,
Reason Not Otherwise Specified

(Two CPT II codes [4559F-8P & 4255F] are required on the claim form to submit this numerator option)

Append a reporting modifier (8P) to CPT Category II code 4559F to report circumstances when the action described in the numerator is not performed and the reason is not otherwise specified.

4559F with 8P: At least one body temperature equal to or greater than 35.5 degrees Centigrade not achieved within designated timeframe, reason not otherwise specified

AND

CPT II 4255F: Duration of general or neuraxial anesthesia 60 minutes or longer, as documented in the anesthesia record

Reason: The numerator detail was updated to reflect the work of the AMA-PCPI Anesthesiology and Critical Care workgroup's deliberations.

Application Number: S.7. Denominator Statement

Previous Language: All patients, regardless of age, undergoing surgical or therapeutic procedures under general or neuraxial anesthesia of 60 minutes duration or longer

New Language: All patients, regardless of age, who undergo surgical or therapeutic procedures under general or neuraxial anesthesia of 60 minutes duration or longer

Reason: The denominator statement was updated to reflect the work of the AMA-PCPI Anesthesiology and Critical Care workgroup's deliberations.

Application Number: S.9 Denominator Details

Previous Language: CPT® codes for: Anesthesia. These services may include, but are not limited to general, regional, supplementation of local anesthesia, or other supportive services in order to afford the patient the anesthesia care deemed optimal by the anesthesiologist during any procedure. CPT Codes: 00100-01860, 01924-01952, 01961-01966, 01968-01969

AND

- Documentation of anesthesia duration of 60 minutes or longer (as recorded on claim)

New Language: CPT® Code for Procedure: 00100, 00102, 00103, 00104, 00120, 00124, 00120, 00124, 00126, 00140, 00142, 00144, 00145, 00147, 00148, 00160, 00162, 00164, 00170, 00172, 00174, 00176, 00190, 00192, 00210, 00211, 00212, 00214, 00215, 00216, 00218, 00220, 00222, 00300, 00320, 00322, 00326, 00350, 00352, 00400, 00402, 00404, 00406, 00410, 00450, 00452, 00454, 00470, 00472, 00474, 00500, 00520, 00522, 00524, 00528, 00529, 00530, 00532, 00534, 00537, 00539, 00540, 00541, 00542, 00546, 00548, 00550, 00560, 00600, 00604, 00620, 00622, 00625, 00626, 00630, 00632, 00634, 00635, 00640, 00670, 00700, 00702, 00730, 00740, 00750, 00752, 00754, 00756, 00770, 00790, 00792, 00794, 00796, 00797, 00800, 00802, 00810, 00820, 00830, 00832, 00834, 00836, 00840, 00842, 00844, 00846, 00848, 00851, 00860, 00862, 00864, 00865, 00866, 00868, 00870, 00872, 00873, 00880, 00882, 00902, 00904, 00906, 00908, 00910, 00912, 00914, 00916, 00918, 00920, 00921, 00922, 00924, 00926, 00928, 00930, 00932, 00934, 00936, 00938, 00940, 00942, 00944, 00948, 00950, 00952, 01112, 01120, 01130, 01140, 01150, 01160, 01170, 01173, 01180, 01190, 01200, 01202, 01210, 01212, 01214, 01215, 01220, 01230, 01232, 01234, 01250, 01260, 01270, 01272, 01274, 01320, 01340, 01360, 01380, 01382, 01390,

01392, 01400, 01402, 01404, 01420, 01430, 01432, 01440, 01442, 01444, 01462, 01464, 01470, 01472, 01474, 01480, 01482, 01484, 01486, 01490, 01500, 01502, 01520, 01522, 01610, 01620, 01622, 01630, 01634, 01636, 01638, 01650, 01652, 01654, 01656, 01670, 01680, 01682, 01710, 01712, 01714, 01716, 01730, 01732, 01740, 01742, 01744, 01756, 01758, 01760, 01770, 01772, 01780, 01782, 01810, 01820, 01829, 01830, 01832, 01840, 01842, 01844, 01850, 01852, 01860, 01924, 01925, 01926, 01930, 01931, 01932, 01933, 01935, 01936, 01951, 01952, 01961, 01962, 01963, 01965, 01966, 01968, 01969

AND

CPT Category II Code:

CPT II 4255F: Duration of general or neuraxial anesthesia 60 minutes or longer, as documented in the anesthesia record

Reason: The denominator details were updated to reflect the work of the AMA-PCPI Anesthesiology and Critical Care workgroup's deliberations.

Application Number: S.10 Denominator Exclusions

Previous Language: Documentation of one of the following medical reason(s) for not using active warming intraoperatively for the purpose of maintaining normothermia OR achieving at least one body temperature equal to or greater than 36 degrees Centigrade (or 96.8 degrees Fahrenheit) recorded within the 30 minutes immediately before or the 30 minutes immediately after anesthesia end time:

- intentional hypothermia
- not indicated due to anesthetic technique: peripheral nerve block without general anesthesia, OR monitored anesthesia care

New Language: Denominator Exceptions: Documentation of one of the following medical reason(s) for not achieving at least one body temperature greater than or equal to 35.5 degrees Centigrade or 95.9 degrees Fahrenheit within the 30 minutes immediately before or the 15 minutes immediately after anesthesia end time

- Emergency cases
- Intentional hypothermia

Denominator Exclusions: Patients undergoing:

Cardiopulmonary bypass: 00561, 00562, 00563, 00566, 00567, 00580

Regional nerve block: 01958, 01960, 01967, 01991, 01992

Monitored anesthesia care: any CPT code with -QS modifier

Reason: The denominator exclusions were updated to reflect the work of the AMA-PCPI Anesthesiology and Critical Care workgroup's deliberations.

Application Number: S.11 Denominator Exclusion Details

Previous Language: Append modifier to CPT Category II code: 4250F-1P

New Language: Append modifier to CPT Category II code: 4559F-1P

Reason: The denominator exclusion detail was updated to reflect the work of the AMA-PCPI Anesthesiology and Critical Care workgroup's deliberations.

S.4. Numerator Statement (Brief, narrative description of the measure focus or what is being measured about the target population, i.e., cases from the target population with the target process, condition, event, or outcome)

IF an OUTCOME MEASURE, state the outcome being measured. Calculation of the risk-adjusted outcome should be described in the calculation algorithm.

Patients for whom at least one body temperature greater than or equal to 35.5 degrees Celsius (or 95.9 degrees Fahrenheit) was recorded within the 30 minutes immediately before or the 15 minutes immediately after anesthesia end time

S.5. Time Period for Data (What is the time period in which data will be aggregated for the measure, e.g., 12 mo, 3 years, look back to August for flu vaccination? Note if there are different time periods for the numerator and denominator.)

Data from the CMS 5% files from 2010, 2011 and 2012.

Data from the National Anesthesia Clinical Outcomes Registry 2010-2013.

S.6. Numerator Details (All information required to identify and calculate the cases from the target population with the target process, condition, event, or outcome such as definitions, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b)

IF an OUTCOME MEASURE, describe how the observed outcome is identified/counted. Calculation of the risk-adjusted outcome should be described in the calculation algorithm.

Report the following CPT Category II code:

Numerator Instructions: The anesthesia time used for this measure should be the time recorded in the anesthesia record.

NUMERATOR NOTE: If monitored anesthesia care (MAC) or peripheral nerve block (PNB) without the use of general anesthesia during an applicable procedure (regardless of duration of procedure), report 4559F-1P.

Definition:

Numerator Quality-Data Coding Options for Reporting Satisfactorily:

At Least One Body Temperature Equal to or Greater than 35.5 Degrees Centigrade Recorded Within Designated Timeframe (Two CPT II codes [4559F & 4255F] are required on the claim form to submit this numerator option)

CPT II 4559F: At least 1 body temperature measurement equal to or greater than 35.5 degrees Celsius (or 95.9 degrees Fahrenheit) recorded within the 30 minutes immediately before or the 15 minutes immediately after anesthesia end time.

AND

CPT II 4255F: Duration of general or neuraxial anesthesia 60 minutes or longer, as documented in the anesthesia record
OR
At Least One Body Temperature Equal to or Greater than 35.5 Degrees Centigrade Not Achieved Within Designated Timeframe for one of the following Medical Reasons:
(Two CPT II codes [4559F-1P & 4255F] are required on the claim form to submit this numerator option)
Append a modifier (1P) to CPT Category II code 4559F to report one of the following documented circumstances that appropriately exclude patients from the denominator.
4559F with 1P: Intentional hypothermia OR emergency cases OR peripheral nerve block without general anesthesia OR monitored anesthesia care
AND
CPT II 4255F: Duration of general or neuraxial anesthesia 60 minutes or longer, as documented in the anesthesia record
OR
If patient does not meet denominator inclusion because anesthesia time as indicated on the anesthesia record is less than 60 minutes duration
(One CPT II code [4256F] is required on the claim form to submit this numerator option)
CPT II 4256F: Duration of general or neuraxial anesthesia less than 60 minutes, as documented in the anesthesia record
OR
At Least One Body Temperature Equal to or Greater than 35.5 Degrees Centigrade Not Achieved Within Designated Timeframe, Reason Not Otherwise Specified
(Two CPT II codes [4559F-8P & 4255F] are required on the claim form to submit this numerator option)
Append a reporting modifier (8P) to CPT Category II code 4559F to report circumstances when the action described in the numerator is not performed and the reason is not otherwise specified.
4559F with 8P: At least one body temperature equal to or greater than 35.5 degrees Centigrade not achieved within designated timeframe, reason not otherwise specified
AND
CPT II 4255F: Duration of general or neuraxial anesthesia 60 minutes or longer, as documented in the anesthesia record

S.7. Denominator Statement (*Brief, narrative description of the target population being measured*)

All patients, regardless of age, who undergo surgical or therapeutic procedures under general or neuraxial anesthesia of 60 minutes duration or longer

S.8. Target Population Category (*Check all the populations for which the measure is specified and tested if any*):

Children, Elderly, Populations at Risk, Populations at Risk : Dual eligible beneficiaries, Populations at Risk : Individuals with multiple chronic conditions, Populations at Risk : Veterans, Women

S.9. Denominator Details (*All information required to identify and calculate the target population/denominator such as definitions, specific data collection items/responses , code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b*)

CPT® Code for Procedure: 00100, 00102, 00103, 00104, 00120, 00124, 00120, 00124, 00126, 00140, 00142, 00144, 00145, 00147, 00148, 00160, 00162, 00164, 00170, 00172, 00174, 00176, 00190, 00192, 00210, 00211, 00212, 00214, 00215, 00216, 00218, 00220, 00222, 00300, 00320, 00322, 00326, 00350, 00352, 00400, 00402, 00404, 00406, 00410, 00450, 00452, 00454, 00470, 00472, 00474, 00500, 00520, 00522, 00524, 00528, 00529, 00530, 00532, 00534, 00537, 00539, 00540, 00541, 00542, 00546, 00548, 00550, 00560, 00600, 00604, 00620, 00622, 00625, 00626, 00630, 00632, 00634, 00635, 00640, 00670, 00700, 00702, 00730, 00740, 00750, 00752, 00754, 00756, 00770, 00790, 00792, 00794, 00796, 00797, 00800, 00802, 00810, 00820, 00830, 00832, 00834, 00836, 00840, 00842, 00844, 00846, 00848, 00851, 00860, 00862, 00864, 00865, 00866, 00868, 00870, 00872, 00873, 00880, 00882, 00902, 00904, 00906, 00908, 00910, 00912, 00914, 00916, 00918, 00920, 00921, 00922, 00924, 00926, 00928, 00930, 00932, 00934, 00936, 00938, 00940, 00942, 00944, 00948, 00950, 00952, 01112, 01120, 01130, 01140, 01150, 01160, 01170, 01173, 01180, 01190, 01200, 01202, 01210, 01212, 01214, 01215, 01220, 01230, 01232, 01234, 01250, 01260, 01270, 01272, 01274, 01320, 01340, 01360, 01380, 01382, 01390, 01392, 01400, 01402, 01404, 01420, 01430, 01432, 01440, 01442, 01444, 01462, 01464, 01470, 01472, 01474, 01480, 01482, 01484, 01486, 01490, 01500, 01502, 01520, 01522, 01610, 01620, 01622, 01630, 01634, 01636, 01638, 01650, 01652, 01654, 01656, 01670, 01680, 01682, 01710, 01712, 01714, 01716, 01730, 01732, 01740, 01742, 01744, 01756, 01758, 01760, 01770, 01772, 01780, 01782, 01810, 01820, 01829, 01830, 01832, 01840, 01842, 01844, 01850, 01852, 01860, 01924, 01925, 01926,

01930, 01931, 01932, 01933, 01935, 01936, 01951, 01952, 01961, 01962, 01963, 01965, 01966, 01968, 01969

AND

CPT Category II Code:

CPT II 4255F: Duration of general or neuraxial anesthesia 60 minutes or longer, as documented in the anesthesia record

S.10. Denominator Exclusions (Brief narrative description of exclusions from the target population)

Denominator Exceptions: Documentation of one of the following medical reason(s) for not achieving at least one body temperature greater than or equal to 35.5 degrees Centigrade or 95.9 degrees Fahrenheit within the 30 minutes immediately before or the 15 minutes immediately after anesthesia end time

- Emergency cases
- Intentional hypothermia

Denominator Exclusions: Patients undergoing:

Cardiopulmonary bypass: 00561, 00562, 00563, 00566, 00567, 00580

Regional nerve block: 01958, 01960, 01967, 01991, 01992

Monitored anesthesia care: any CPT code with -QS modifier

S.11. Denominator Exclusion Details (All information required to identify and calculate exclusions from the denominator such as definitions, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b)

Append modifier to CPT Category II code: 4559F-1P

S.12. Stratification Details/Variables (All information required to stratify the measure results including the stratification variables, definitions, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format with at S.2b)

This question does not apply to this measure. The measure is not risk-adjusted.

S.13. Risk Adjustment Type (Select type. Provide specifications for risk stratification in S.12 and for statistical model in S.14-15)

No risk adjustment or risk stratification

If other:

S.14. Identify the statistical risk model method and variables (Name the statistical method - e.g., logistic regression and list all the risk factor variables. Note - risk model development and testing should be addressed with measure testing under Scientific Acceptability)

The question does not apply to this measure. The measure is not risk-adjusted.

S.15. Detailed risk model specifications (must be in attached data dictionary/code list Excel or csv file. Also indicate if available at measure-specific URL identified in S.1.)

Note: Risk model details (including coefficients, equations, codes with descriptors, definitions), should be provided on a separate worksheet in the suggested format in the Excel or csv file with data dictionary/code lists at S.2b.

S.15a. Detailed risk model specifications (if not provided in excel or csv file at S.2b)

S.16. Type of score:

Ratio

If other:

S.17. Interpretation of Score (Classifies interpretation of score according to whether better quality is associated with a higher score, a lower score, a score falling within a defined interval, or a passing score)

Better quality = Higher score

S.18. Calculation Algorithm/Measure Logic (Describe the calculation of the measure score as an ordered sequence of steps including identifying the target population; exclusions; cases meeting the target process, condition, event, or outcome; aggregating data; risk adjustment; etc.)

This question does not apply to this measure. The measure is not risk-adjusted.

S.19. Calculation Algorithm/Measure Logic Diagram URL or Attachment (You also may provide a diagram of the Calculation Algorithm/Measure Logic described above at measure-specific Web page URL identified in S.1 OR in attached appendix at A.1)
No diagram provided

S.20. Sampling (If measure is based on a sample, provide instructions for obtaining the sample and guidance on minimum sample size.)

IF a PRO-PM, identify whether (and how) proxy responses are allowed.

The measure is not based on a sample or survey.

S.21. Survey/Patient-reported data (If measure is based on a survey, provide instructions for conducting the survey and guidance on minimum response rate.)

IF a PRO-PM, specify calculation of response rates to be reported with performance measure results.

The measure is not based on a sample or survey.

S.22. Missing data (specify how missing data are handled, e.g., imputation, delete case.)

Required for Composites and PRO-PMs.

The measure is not a composite, PRO-PM or eMeasure.

S.23. Data Source (Check ONLY the sources for which the measure is SPECIFIED AND TESTED).

If other, please describe in S.24.

Claims, Electronic Health Records, Other, Paper Medical Records, Registry Data

S.24. Data Source or Collection Instrument (Identify the specific data source/data collection instrument e.g. name of database, clinical registry, collection instrument, etc.)

IF a PRO-PM, identify the specific PROM(s); and standard methods, modes, and languages of administration.

Data is gathered by the Anesthesia Quality Institute and the National Anesthesia Clinical Outcomes Registry. Data source for reporting also includes the Medicare Limited Data Set.

S.25. Data Source or Collection Instrument (available at measure-specific Web page URL identified in S.1 OR in attached appendix at A.1)

No data collection instrument provided

S.26. Level of Analysis (Check ONLY the levels of analysis for which the measure is SPECIFIED AND TESTED)

Clinician : Group/Practice, Clinician : Individual, Facility

S.27. Care Setting (Check ONLY the settings for which the measure is SPECIFIED AND TESTED)

Inpatient/Hospital, Outpatient Services

If other:

S.28. COMPOSITE Performance Measure - Additional Specifications (Use this section as needed for aggregation and weighting rules, or calculation of individual performance measures if not individually endorsed.)

The question does not apply to this measure. The measure is not a Composite Performance Measure.

2a. Reliability – See attached Measure Testing Submission Form

2b. Validity – See attached Measure Testing Submission Form

FINAL_NQF_MeasSubm_MeasTesting_0454-635304151509094754.docx

3. Feasibility

Extent to which the specifications including measure logic, require data that are readily available or could be captured without undue burden and can be implemented for performance measurement.

3a. Byproduct of Care Processes

For clinical measures, the required data elements are routinely generated and used during care delivery (e.g., blood pressure,

lab test, diagnosis, medication order).

3a.1. Data Elements Generated as Byproduct of Care Processes.

Generated or collected by and used by healthcare personnel during the provision of care (e.g., blood pressure, lab value, diagnosis, depression score), Abstracted from a record by someone other than person obtaining original information (e.g., chart abstraction for quality measure or registry)

If other:

3b. Electronic Sources

The required data elements are available in electronic health records or other electronic sources. If the required data are not in electronic health records or existing electronic sources, a credible, near-term path to electronic collection is specified.

3b.1. To what extent are the specified data elements available electronically in defined fields? (*i.e., data elements that are needed to compute the performance measure score are in defined, computer-readable fields*)

ALL data elements are in defined fields in electronic clinical data (e.g., clinical registry, nursing home MDS, home health OASIS)

3b.2. If ALL the data elements needed to compute the performance measure score are not from electronic sources, specify a credible, near-term path to electronic capture, OR provide a rationale for using other than electronic sources.

3b.3. If this is an eMeasure, provide a summary of the feasibility assessment in an attached file or make available at a measure-specific URL.

Attachment:

3c. Data Collection Strategy

Demonstration that the data collection strategy (e.g., source, timing, frequency, sampling, patient confidentiality, costs associated with fees/licensing of proprietary measures) can be implemented (e.g., already in operational use, or testing demonstrates that it is ready to put into operational use). For eMeasures, a feasibility assessment addresses the data elements and measure logic and demonstrates the eMeasure can be implemented or feasibility concerns can be adequately addressed.

3c.1. Describe what you have learned/modified as a result of testing and/or operational use of the measure regarding data collection, availability of data, missing data, timing and frequency of data collection, sampling, patient confidentiality, time and cost of data collection, other feasibility/implementation issues.

IF a PRO-PM, consider implications for both individuals providing PROM data (patients, service recipients, respondents) and those whose performance is being measured.

This will be an ideal e-measure once the penetration of EHRs into the Post Anesthesia Care Unit increases. Currently about 25% of surgical facilities are using EHRs, and could gather data for this measure in automated fashion. The remaining 75% are using paper records, and performance on this measure must be captured by a coder/abstractor. The critical data are patient temperatures recorded in the Post Anesthesia Care Unit. This is a routine vital sign which will be captured at least once for every patient (if normal) or repeatedly over time (if abnormal or the patient at risk for hypo- or hyper-thermia). Changing this measure to reflect a pure intermediate outcome (documented patient temperature) from one that also had to consider a process (use of warming technology) will make it much easier to collect, either electronically or through manual abstraction.

3c.2. Describe any fees, licensing, or other requirements to use any aspect of the measure as specified (*e.g., value/code set, risk model, programming code, algorithm*).

There are no fees, licensing, or other requirements to use any aspect of the measure as specified.

4. Usability and Use

Extent to which potential audiences (e.g., consumers, purchasers, providers, policy makers) are using or could use performance results for both accountability and performance improvement to achieve the goal of high-quality, efficient healthcare for individuals or populations.

4a. Accountability and Transparency

Performance results are used in at least one accountability application within three years after initial endorsement and are publicly reported within six years after initial endorsement (or the data on performance results are available). If not in use at

the time of initial endorsement, then a credible plan for implementation within the specified timeframes is provided.

4.1. Current and Planned Use

NQF-endorsed measures are expected to be used in at least one accountability application within 3 years and publicly reported within 6 years of initial endorsement in addition to performance improvement.

Planned	Current Use (for current use provide URL)
	Public Reporting Physician Quality Reporting System http://www.cms.gov/pqrs
	Quality Improvement (Internal to the specific organization) National Anesthesia Clinical Outcomes Registry www.aqihq.org

4a.1. For each CURRENT use, checked above, provide:

- Name of program and sponsor
- Purpose
- Geographic area and number and percentage of accountable entities and patients included

[Centers for Medicare & Medicaid Services, Physician Quality Reporting System](#)

The Joint Commission and other accrediting bodies require that hospitals perform ongoing professional practice evaluations (OPPE) of individual providers at the time of credentialing or renewal (at least every two years). Anesthesia practices and hospitals use compliance with this measures as a metric for OPPE.

Approximately 200 anesthesia groups nationwide participate in quality benchmarking through the Anesthesia Quality Institute's NACOR. Many of these groups report on this measure, and share in periodic benchmarking of performance (see attached worksheets). This is an internal quality management program within the practice, and is not reported to the public at large. As was noted, many groups do use this data towards hospital and Joint Commission reporting requirements at either the individual or practice level.

Participation in NACOR is representative of the density of anesthesiologists across the country, and includes all types of patients and surgeries.

4a.2. If not currently publicly reported OR used in at least one other accountability application (e.g., payment program, certification, licensing) what are the reasons? (e.g., Do policies or actions of the developer/steward or accountable entities restrict access to performance results or impede implementation?)

[The question does not apply to this measure. The measure is publicly reported.](#)

4a.3. If not currently publicly reported OR used in at least one other accountability application, provide a credible plan for implementation within the expected timeframes -- any accountability application within 3 years and publicly reported within 6 years of initial endorsement. (Credible plan includes the specific program, purpose, intended audience, and timeline for implementing the measure within the specified timeframes. A plan for accountability applications addresses mechanisms for data aggregation and reporting.)

[The question does not apply to this measure. The measure is publicly reported.](#)

4b. Improvement

Progress toward achieving the goal of high-quality, efficient healthcare for individuals or populations is demonstrated. If not in use for performance improvement at the time of initial endorsement, then a credible rationale describes how the performance results could be used to further the goal of high-quality, efficient healthcare for individuals or populations.

4b.1. Progress on Improvement. (Not required for initial endorsement unless available.)

Performance results on this measure (current and over time) should be provided in 1b.2 and 1b.4. Discuss:

- Progress (trends in performance results, number and percentage of people receiving high-quality healthcare)
- Geographic area and number and percentage of accountable entities and patients included

This is a relatively new measure for anesthesiologists and the reporting requirements have been somewhat cumbersome. The reporting requirements have limited the amount of data available to assess performance. The AQI has noted evidence from some anesthesia groups of improvements in performance with internal reporting. As seen in the evidence presented, for groups that report this measure regularly a high level of successful performance is possible. The larger challenge at present is to make reporting more universal.

4b.2. If no improvement was demonstrated, what are the reasons? If not in use for performance improvement at the time of initial endorsement, provide a credible rationale that describes how the performance results could be used to further the goal of high-quality, efficient healthcare for individuals or populations.

As was noted, the largest gap in performance on this measure arises from failure to report it. When reported regularly, performance will almost always improve over time.

4c. Unintended Consequences

The benefits of the performance measure in facilitating progress toward achieving high-quality, efficient healthcare for individuals or populations outweigh evidence of unintended negative consequences to individuals or populations (if such evidence exists).

4c.1. Were any unintended negative consequences to individuals or populations identified during testing; OR has evidence of unintended negative consequences to individuals or populations been reported since implementation? If so, identify the negative unintended consequences and describe how benefits outweigh them or actions taken to mitigate them.

The scientific evidence supporting the goal of postoperative normothermia is overwhelming, and is known to most anesthesiologists. (Most of the existing gap in performance on this measure results from failure to report, not failure to succeed.) In decades past, over-aggressive efforts to warm the patient in the operating room would occasionally result in burns or other thermal injury. Anecdotal accounts of injury have been addressed over a 25+ year period by the Anesthesia Patient Safety Foundation (APSF). Working with the vendors of intraoperative technology, APSF has proposed and seen advanced into practice multiple new and safer devices for patient warming. These include the replacement of water bath technology for blood and fluid warming with magnetic induction and counter-current closed loop systems that incorporate failsafes against over-heating; similar software redesign of forced hot air systems; transition from active to passive humidification systems for airway gases; and introduction of newer transductive total-body warming systems. The result has been a noteworthy drop in anecdotal accounts of patient injury.

5. Comparison to Related or Competing Measures

If a measure meets the above criteria and there are endorsed or new related measures (either the same measure focus or the same target population) or competing measures (both the same measure focus and the same target population), the measures are compared to address harmonization and/or selection of the best measure.

5. Relation to Other NQF-endorsed Measures

Are there related measures (conceptually, either same measure focus or target population) or competing measures (conceptually both the same measure focus and same target population)? If yes, list the NQF # and title of all related and/or competing measures.
Yes

5.1a. List of related or competing measures (selected from NQF-endorsed measures)

5.1b. If related or competing measures are not NQF endorsed please indicate measure title and steward.

5a. Harmonization

The measure specifications are harmonized with related measures;

OR

The differences in specifications are justified

5a.1. If this measure conceptually addresses EITHER the same measure focus OR the same target population as NQF-endorsed measure(s):

Are the measure specifications completely harmonized?

No

5a.2. If the measure specifications are not completely harmonized, identify the differences, rationale, and impact on interpretability and data collection burden.

[This question does not apply to the measure.](#)

5b. Competing Measures

The measure is superior to competing measures (e.g., is a more valid or efficient way to measure);

OR

Multiple measures are justified.

5b.1. If this measure conceptually addresses both the same measure focus and the same target population as NQF-endorsed measure(s):

Describe why this measure is superior to competing measures (e.g., a more valid or efficient way to measure quality); OR provide a rationale for the additive value of endorsing an additional measure. (Provide analyses when possible.)

[There are no competing measures.](#)

Appendix

A.1 Supplemental materials may be provided in an appendix. All supplemental materials (such as data collection instrument or methodology reports) should be organized in one file with a table of contents or bookmarks. If material pertains to a specific submission form number, that should be indicated. Requested information should be provided in the submission form and required attachments. There is no guarantee that supplemental materials will be reviewed.

[Attachment Attachment: FINAL_Supplemental_Materials_Data_Appendix_Measure_-0454.docx](#)

Contact Information

Co.1 Measure Steward (Intellectual Property Owner): [American Society of Anesthesiologists \(ASA\)](#)

Co.2 Point of Contact: [Maureen A., Amos, M.S., m.amos@asahq.org, 202-289-2222-](#)

Co.3 Measure Developer if different from Measure Steward: [American Society of Anesthesiologists \(ASA\)](#)

Co.4 Point of Contact: [Maureen A., Amos, M.S., m.amos@asahq.org, 202-289-2222-](#)

Additional Information

Ad.1 Workgroup/Expert Panel involved in measure development

Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.

[The Measure Expert Panel, listed below, reviewed NQF #0454 measure specifications and were asked to rate their agreement with the following statement: "The scores obtained from the measure as specified will provide an accurate reflection of quality and can be used to distinguish good and poor quality." The results were displayed in 2b2.3.](#)

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Evanston, IL

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Professor and Chairman of the Anesthesiology Department
MCV Hospital of Virginia Commonwealth University Health System
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Steven L. Sween, MD
Chair, Department of Anesthesia
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Measure Developer/Steward Updates and Ongoing Maintenance

Ad.2 Year the measure was first released: 2007

Ad.3 Month and Year of most recent revision: 03, 2014

Ad.4 What is your frequency for review/update of this measure? Yearly

Ad.5 When is the next scheduled review/update for this measure? 03, 2015

Ad.6 Copyright statement: NA

Ad.7 Disclaimers: NA

Ad.8 Additional Information/Comments: NA